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ABSTRACT

The purpose of this study was to determine if third-grade students could learn vocabulary incidentally through silent reading and by listening to stories read aloud as well as which method would produce the greater gain. Students listened to and read silently a total of 16 stories over the course of 8 weeks. Pretest and posttest scores on multiple choice vocabulary tests were compared to see if an increase in vocabulary occurred. Results indicated that students learned a significant amount of vocabulary through both methods, although a much greater gain was seen through listening to stories read aloud. (Contains 53 references, 8 tables, and a figure of data. Appendix contains data and sample questions from pretests and posttests.) (Author/RS)

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Incidental Vocabulary Acquisition: Learning New Vocabulary from Reading Silently and Listening to Stories Read Aloud

By:
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4/3/01

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Master of Arts Degree in Reading Specialization

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ABSTRACT

The purpose of this study was to determine if students could learn vocabulary incidentally through silent reading and by listening to stories read aloud as well as which method would produce the greater gain. Students listened to and read silently a total of 16 stories over the course of eight weeks. Pre and posttest scores on multiple choice vocabulary tests were compared to see if an increase in vocabulary occurred. Results indicated that students learned a significant amount of vocabulary through both methods although a much greater gain was seen through listening to stories read aloud.

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Many research studies show that vocabulary is one of the best indicators of intellectual ability, and an accurate predictor of overall verbal intelligence and success at school (Sternberg, 1987). However, a rich vocabulary is a valuable asset and an important attribute in many areas of life, not just in school. Salesmen, politicians, sportscasters, radio personnel, and teachers are only a few professions where a good vocabulary proves to be essential. Also, those possessing a strong vocabulary will have other advantages in areas of everyday life such as at social events, meetings and interviews.

Since possessing a rich vocabulary is so important, the best method of teaching students new vocabulary must be determined. Researchers differ in their opinions as to which method is the best and produces the best results. Nagy, Herman, and Anderson (1985) concluded from their study that a substantial proportion of vocabulary growth demonstrated during students school years are acquired incidentally from context during silent reading. Jenkins, Matlock, and Slocum (1989) studied two approaches to vocabulary instruction: practice in deriving word meaning from context and teaching individual word meaning. Both methods appeared to hold potential for adding significantly to students' vocabulary. In their article on vocabulary instruction, Klesius and Searls (1991) stress the need for direct and indirect instruction to improve students' vocabulary.

The problem with these methods is the time involved as well as the question of their effectiveness. Although studies have shown direct instruction of vocabulary to be effective (Jenkins, Matlock, and Slocum, 1989; Beck, 1980; and McKeown, 1983), the time involved can be substantial. For the above mentioned studies, the time and

training required to teach each individual word ranged from about 7 ½ minutes to over 26 minutes. If this much time is needed to teach individual words, a year long program for teaching individual words would not be practical.

Learning new vocabulary from context has also been shown to be effective (Nagy, Herman, Anderson, 1985; McKeown, 1983). However, this method may prove beneficial for good readers only. In the study done by Nagy, Herman, and Anderson only average and above average readers participated. In McKeown's study, deriving a correct definition from context, did not, for the low ability group "translate into ability to use the newly learned word to interpret subsequent sentences that immediately followed the learning task. This suggests that low-ability children are not only at a disadvantage in deriving word meaning, but, once word meaning is provided, they remain at a disadvantage in applying the new word."

Some researchers believe acquiring new vocabulary through reading aloud is an effective method that does not require substantial amounts of extra class time to teach or practice. In two different studies of how children learn new words, Elley (1988, 1989) found that much vocabulary acquisition does occur during the experience of listening to stories read aloud, that lower ability children learn as many words, or more than those of higher ability, and that the learning is long-term.

In her practicum on teaching vocabulary to students characterized as disabled readers, Fondas (1992) described an alternative method, which was a naturalistic approach of reading aloud to students combined with guided discussions before, during, and after the reading. The results showed that reading aloud constitutes a major source of incidental vocabulary acquisition regardless of the child's reading ability.

Stahl (1990) examined the effects of less able readers' learning vocabulary from listening. His results concluded that children could learn a significant amount of word meanings from listening to an oral presentation. Also, students with low achievement in vocabulary can learn as many, if not more, word meanings from listening.

Reading aloud to students has been praised by many as an activity in and of itself (Trelease, 1989 and Greene, 1992). Only in the last few years however, has this form been linked to the acquisition of vocabulary. Additional studies must be done to determine the extent of the effectiveness of reading aloud on student's vocabulary acquisition.

HYPOTHESIS

Vocabulary acquisition does occur incidentally from reading stories silently and listening to stories read aloud. Students who listen to stories read aloud will show a greater gain in vocabulary acquisition as compared to those who read stories silently.

PROCEDURE

Subjects were 17 students (9 boys and 8 girls) from a self-contained third grade public school class in a small suburban town in northern New Jersey. Over 80% of the students were white and the remaining were of Asian descent. No standardized test scores were available for this group of students. However, current report cards as well as those from the previous two years indicate that 15 of the 17 students were average to above

average readers, earning a final grade of C or better. The remaining students were both part of the school's remedial reading program. Both of these students, however, were dropped from the study, one due to absences during the study and the other, an ESL student, had conflicting classes that caused him to miss several of the testing sessions.

The purpose of this study was to compare vocabulary acquisition from listening to stories read aloud as opposed to reading them silently. After perusing more than 50 books, 16 books were chosen for the study – 8 to be read orally and 8 to be read silently by the students.

Each book met the following criteria: it could be read in one sitting (not more than 20 minutes), the theme or storyline was thought to be of interest to an average 8-9 year old child and the book contained 7 or more words determined by the examiner to be difficult for an average third grade student. Each of the books must have also met ***one*** of the following as well: was the recipient of an award, was recommended in a teacher publication or by the local librarian as a favorite among young children.

The books included in this study included a range of genres: realistic fiction, folk or fairy tales, fantasy and biography. According to Fry's Readability Graph (1977), all the books were at an approximate third grade reading level.

Seven or eight words, determined by the examiner to be among the most difficult, were chosen from each book for a total of 120 words. Following the pretest for each set of stories, any word known by 75% or more of the students was deleted. Nineteen words were deleted as a result leaving 101 words as part of the study.

Tables 1 and 2 list the titles, authors and target words for all the books used in the study.

TABLE 1
Books, authors and target words for books read silently

Stories Read Orally	Target Words
My Rotten Red Headed Older Brother by Patricia Polacco	babushka, rhubarb, sneered, relished, jeered, smug, consoled
Swamp Angel by Anne Issacs	rations, prowled, varmint, mired, taunts, gape-mouthed, commenced
The Three Little Wolves and the Big Bad Pig by Eugene Trivizas	slurry, fragrant, shuttlecock, swayed, fragile, croquet, scorched, tarantella
The Iguana Brothers by Tony Johnston	lolling, de veras, flaco, armadillo, la major, ninny, strutted
Hey, Al by Arthur Yorinks	flitted, blissfully, frenzy, cascaded, lush, ecstasy, plunged
Eleanor by Barbara Cooney	grim, bluff, begrudged, dilapidated, luxury, nosegays, gossip, solemn
Edward and the Pirates by David McPhail	inscription, deflect, pleaded, lance, monument, helm, plank, tunic
The Talking Eggs by Robert D. San Souci	lit into, shack, kindling, plaited, swarm, hightailed, brayed

The study was conducted over four weeks using four books per week. At the beginning of each week students took a two part, 30-question pretest. The first part consisted of fifteen sentences with each one containing a target word. Students were instructed to choose the word or words that meant the same as the underlined target word. Four choices were given for each sentence. The sentences were written so that the students could not use context clues to determine the meaning of the target words. Students read the sentences and choices silently but each target word was read orally.

The second part of the test consisted of 15 cloze sentences. Students were once again instructed to choose the correct answer from four possible choices. Each choice was a target word taken from one of the stories to be read during the study. Even though there was only one correct answer per sentence, each choice made sense syntactically.

Students once again read each sentence silently. This time, however, all 4 word choices were read orally.

Students read or heard each set of four books two times each week. On Monday, one book was read orally to the students in the morning and the students read another silently during their regularly scheduled Sustained Silent Reading time in the afternoon. The same procedure was followed on Tuesday. On Wednesday and Thursday, each of the four books was reread a second time. Each of the books was briefly discussed with the students and pictures were shown for those books read orally. However, none of the target words were discussed.

On Friday afternoon, students completed a posttest. The posttest was the same 30-question test as the pretest and was administered in the same manner.

TABLE 2
Books, authors and target words for books read silently

Stories Read Silently	**Target Words**
I Wish I Were a Butterfly by James Howe	defiantly, content, gazed, rippled, envious, darted, reflection
Down the Road by Alice Schertle	skimming, dillydally, stumbled, nudged, striding, magpie, obstacles, cluttered
Hooray for Wodney Wat by Helen Lester	rodent, prickled, gnawed, trampled, scurried, flinging, capybara
Angel Child, Dragon Child by Michele Surat	chant, chives, trilled, twittered, scrawled, glared, slung
The Man Who Kept his Heart in a Bucket by Sonia Levitin	merged, clambered, jig, seized, carp, delectable, tongs, smoldering
The Story of Jumping Mouse by John Steptoe	brush, dismay, peered, compassion, fragrances, perilous, hardships, boulder
Morgan the Artist by Donald Carrick	landscape, muffled, thrashed, flattered, palette, rage, mused
Sam, Bangs and Moonshine by Evaline Ness	reckless, chariot, massive, scoured, torrents, sodden, smothered, immense

RESULTS

Following the four-week testing session. the scores of the pretests were compared to those of the posttests. Table 3 shows that the student's scores on the posttests were much higher than on the pretests. A comparison of the means of the pre and posttests show that the average student learned about 23 new words total during the study. A *t* test comparing pre and posttest scores showed a statistically significant difference well below the .01 level. This supports the hypothesis that children can learn words incidentally from reading silently as well as from listening to stories read aloud to them.

TABLE 3

Means, Standard Deviations and *t* of Pre and Posttest Scores for All Words in Study

# of Words Correct	M	SD	*t*
Pretest	38.67	9.95	-6.41
Posttest	61.53	9.58	

Sig < .01 between the means of pre and posttest scores for all words at the conclusion of the study and this difference was statistically significant

Further analysis was done to compare the amount of words learned by listening to a story read aloud as opposed to reading it silently. Table 4 shows that students learned new words throughout the study through independent reading. A comparison of the means of the pre and posttests indicated that students learned approximately six new

words from silent reading throughout the study. A *t* test showed these results to be significant below the .01 level.

TABLE 4

Means. Standard Deviations and *t* of Pre and Posttest Scores for Words Read Silently in Study

# of Words Correct	M	SD	*t*
Pretest	18.07	5.55	-3.04
Posttest	24.47	5.97	

Sig < .01 between the means of pre and posttest scores for words read silently at the conclusion of the study and this difference was statistically significant

Table 5 illustrates that children learned many more words as a result of listening to stories read aloud. Following the study, the means of the pretest scores was compared to the means of the posttest scores for the target words from the books read orally. These results indicated that, on the average, students leaned sixteen new words during the study from listening to stories read to them. This was more than double the amount of words learned through silent reading. A *t* test comparing these results showed a statistically significant difference at well below the .01 level.

TABLE 5

Means, Standard Deviations and *t* of Pre and
Posttest Scores for Words From Stories Read Aloud

# of Words Correct	M	SD	*t*
Pretest	20.60	5.32	-9.30
Posttest	37.00	4.29	

Sig < .01 between the means of pre and posttest scores for words read orally at the conclusion of the study and this difference was statistically significant

Although students learned new words from reading independently as well as from listening to stories read aloud, a much greater increase was shown when students heard a story read to them. The difference in the amount of vocabulary learned from reading a story silently (13.3%) as compared to listening to it read aloud (30.9%) was 17.6% in favor of the listening mode.

The examiner decided to further analyze the target words in an attempt to determine if any other factor seemed to be instrumental in helping a child learn a new word.

Over eighty percent of the words in the study (83 of 101 words) occurred only once in the text. Even though previous studies have stressed that "multiple encounters with a word in a variety of contexts is necessary to produce the depth of word knowledge that will measurably increase comprehension during subsequent reading" (Nagy,

Anderson, and Herman 1987), it seems that students can learn knowledge about an unfamiliar even from a single exposure.

Upon further examination it was found that a substantial amount of target words from the study (28 of 101 – 27.7%) had increases of 33% to over 70% from pre to posttest. These words were analyzed more closely to try to determine why they may have been learned more readily than other words. Twenty-one of the 28 words (75%) were target words from books read orally. This supports the hypothesis that students learn more words incidentally from being read aloud to as opposed to having them read independently.

Ten of these 28 words **did** appear more than once in the text. Therefore, even though it appears that students **can** learn words from a single exposure, it does seem that more encounters provide students with a deeper understanding of an unknown word.

Further analysis found that more than 50% of these same words had an accompanying illustration on the same page that lent support for the unfamiliar word. Sutherland and Arbuthnot (1986) found that artwork in picture books extends and supports the text. The results of this study support this.

Finally, many of these words also had surrounding context (such as synonyms) that may have helped students understand the unfamiliar word.

CONCLUSIONS

The findings from this study support the assumption that young children can learn vocabulary incidentally from reading without direct instruction. Furthermore, students

learn much more vocabulary from hearing stories read aloud to them as compared to reading the stories silently.

Since the results of this study show that both reading silently and being read to orally appear to offer a substantial source for vocabulary acquisition, it would seem only logical that both types of reading should be more widespread in schools today.

Many schools across the country have incorporated Sustained Silent Reading (SSR) or DEAR time (Drop Everything and Read) in their classrooms as part of their daily schedules. These programs, and others like them, allot a specified time each day (usually between 10 and 20 minutes) for the sole purpose of enjoying uninterrupted silent reading. If studies were done to determine vocabulary growth from programs such as these, it might further stress the need for more widespread daily silent reading by students.

Reading aloud has received much attention and praise in recent years. Jim Trelease, one of the biggest advocates of reading aloud, tells us the keys to the success of this activity are that it is "fun, simple and cheap" (1989). If reading aloud can, in addition, produce significant gains in vocabulary as shown in this study, then there are clearly educational grounds for increasing this activity well beyond the enjoyment and simplicity factors.

In his study on how children learn new words, Elley (1988) found that reading aloud is more successful than other more structured vocabulary exercises due to the interest level of the children. He found that "when teachers are reading an absorbing story with liveliness and expression, children usually sit still and concentrate their attention at a deeper level than at other times of the day... There is a greater urgency about their

attention. They feel a real need to understand and so put forth more voluntary effort when the language becomes more difficult." Elley further believes that reading aloud not only increases vocabulary but helps students acquire other aspects of language and culture as well as develop positive feelings about books and reading.

Many parents and educators have been reading aloud to children, and encouraging them to read more independently not only because it is enjoyable but also because they have seen the benefits in it. Hopefully, the results of this study will make these educators and parents continue stressing the importance of reading, as well as encourage others to put emphasis on more wide spread oral **and** independent reading, both in and out of the classroom.

There were some basic limitations found with this study. Only average and above average students from one classroom took part in this study. In order to determine if lower achieving students could also benefit from reading more independently as well as hearing stories read aloud, a greater number of students, including those with lower reading abilities should be studied.

In addition, this study measured only the amount of incidental vocabulary acquired during oral and independent reading without any teacher discussion of unknown words. Other studies, such as Elley's (1989) and Fondas' study (1992) on vocabulary acquisition, compared how much vocabulary was acquired **with** and **without** teacher discussion. Both studies found that the amount of vocabulary learned with even a small amount of discussion about the words was much higher than without any discussion. Therefore, even though the results of this study demonstrate that reading aloud does

result in vocabulary acquisition, more studies determining how important the role of teacher discussion plays in learning new words should be done.

INCIDENTAL VOCABULARY ACQUISITION: RELATED RESEARCH

Many research studies today show that vocabulary is the best single indicator of intellectual ability and an accurate predictor of success in school (Sternberg, 1987). Possessing a rich vocabulary, however, is not just important in school but in all aspects of life. In many occupations, in order to be successful, one must possess a strong vocabulary. Teachers, journalists, television hosts, and politicians are only a few professions where a diverse vocabulary is a necessity. Even in everyday situations, those possessing a superior vocabulary have advantages; they will be secure, comfortable and confident in meetings, interviews, at social events, and even in private conversations.

Vocabulary knowledge has also been correlated to reading and listening comprehension. In fact Sternberg (1987) has argued that "one's level of vocabulary is highly predictive, if not determinative, of one's level of reading comprehension" (p. 90).

Since word knowledge is believed to be so important and so strongly linked to success in school, many studies have been done to determine when and how word knowledge develops, how much vocabulary children have at various levels, as well as the best method for increasing vocabulary among students.

Researchers vary greatly in their beliefs of the size of a child's vocabulary at different ages as well as how many new words are learned by a child each year. Dupuy 's study on word count (1974), resulted in an estimated vocabulary for an average third grader of 2000 basic words, compared to an average seventh grade student with 4760. Terman (1916), estimated an average third grade vocabulary to be closer to 3600, while a seventh grader's vocabulary would be about 7200. Using a more liberal procedure, Smith (1941) came up with much higher estimates – 25,000 for an average third grade vocabulary and 51,000 for an average seventh grader. Regardless of which estimate is

taken to be the most accurate, it seems to hold true that vocabulary size is thought to approximately double between the third and seventh grades.

Other researchers have tried to estimate the number of new words students learn each year. Elley (1988) states that most children in school learn more than 1000 words per year. Miller (1977) has estimated that children between the ages of 6 and 8 pick up and average of 14 basic words per day which would account for the acquisition of over 5000 words per year. Nagy, Herman and Anderson (1984), estimate the amount to be closer to 3000 words learned annually. It can clearly be seen from the results discussed above that many children have large vocabularies even at a young age and learn numerous words each year. Therefore, it must be determined **how** children acquire all of these new words, as well as the most efficient way to help children increase their vocabulary.

Most vocabulary is thought to be acquired in four ways – direct instruction, learning vocabulary as part of reading instruction, deriving meanings from context during silent reading, and learning meaning from context during silent reading.

Several direct instruction teaching procedures have shown to be effective in teaching vocabulary. One such method is known as the keyword method (Pressley, Levin & Miller, 1982). This method is a mnemonic technique for learning vocabulary definitions. Students are asked to form an image between the definition of a vocabulary word and a "keyword", which is a word that sounds like part of the new vocabulary word. For example, if the new vocabulary word was *carta* (Spanish for letter), the keyword could be cart, and the student could generate an image of a shopping cart carrying a letter. This technique has found to improve performance on a number of vocabulary-learning

measures including definition recall, recall of vocabulary items, and comprehension and contextual uses. Also, there appears to be no school age level to which this method can be adapted.

Several studies involving the direct teaching of vocabulary have reported positive results. Beck, McCaslin and McKeown (1980), developed a vocabulary program, which resulted in fourth graders averaging 86 words correct out of 104 new words taught. In a similar study, McKeown, Beck, Omanson and Pople (1985), found that students averaged 90 percent of words correct out of 24 vocabulary items taught through direct instruction.

The biggest concern with direct instruction of vocabulary is the fact that it may take more instructional time than is warranted. In the study done by Beck, et al. (1980) classroom teachers spent 75 daily sessions of 30 minutes each (approximately 2,250 instructional minutes) to achieve the results noted. This breaks down to approximately 26 minutes of vocabulary instruction per word learned. In the McKeown et al. study (1985), the instructional time was reduced to 19 minutes per word learned.

Another concern involving the direct teaching of vocabulary is the number of words an average student would learn over the course of a year. In the study conducted by McKeown et al. (1984), students would learn approximately 270 words during the school year, which would account for only 9 percent of the estimated 3,000 words that students learn annually (Nagy & Herman, 1984).

In summary, direct instruction of new vocabulary **has** demonstrated success. However, the time involved can be enormous compared to the relatively small percentage of new words learned annually. Sanacore (1988) states, "common sense suggests that too

much emphasis on intensive teaching of word meanings may displace other important activities, including reading for pleasure." (p.1)

The second method in which students acquire vocabulary is through instruction as part of the reading program. Jenkins and Dixon (1983) conducted studies of basal reading series to determine how much vocabulary is being taught as well as the effectiveness of the instruction. One basal program they examined devoted great effort to teaching vocabulary. It was Allyn and Bacon's *Pathfinder* Series (Rudell, 1978). Several words for each unit are identified and pre- and posttests for each set of words are provided. The Teacher's Manual recommends dictionary work or writing definitions on the board. There is also a vocabulary workbook page for each unit.

Another basal series examined by Jenkins and Dixon (1983) was the Scott, Foresman Reading Program (Aaron, 1981) This series contained a list of new vocabulary words for each unit in the book. Each of these words appeared in the glossary at the end of the student textbook. Although the teacher is instructed to encourage the students to refer to the glossary when they encounter an unknown word from the list, the students are never formally tested on any of the words. Also, there are no accompanying worksheets to practice the words.

In addition to these vocabulary lists, the text introduces other words that do not appear in the glossary. These words are accompanied by instructional sentences and students are encouraged to use context to determine meanings. Also, the teacher is directed to promote discussion about these words and their meanings.

One final reading series examined by Jenkins and Dixon (1983) was Economy's *Keys to Reading* (Harris, 1975). In this series, no lists of vocabulary identified for emphasis was found, nor any exercises designed to teach word meanings.

Other vocabulary researchers have also studied basal series to determine how vocabulary is presented to be taught in the reading classroom. One series examined by Beck, McKeown, McCaslin, and Burkes (1979) was Houghton Mifflin. In this series, no vocabulary teaching was scheduled prior to story reading. A set of target words was taught following the story, but they had nothing to do with the story.

The analyses of Beck et al. (1979) and Jenkins et al. (1983) reveal that instruction of vocabulary as part of a commercial reading program ranges from virtually zero to modest.

Just as in acquiring words through direct instruction, a concern involving learning words through reading instruction using a basal series is the amount of words a student could learn during the course of a year. In the *Pathfinder* Series, (Rudell, 1978) if students learned **all** the target words, they would increase their vocabulary by just over 300 words per year. However, research by Jenkins and Dixon (1983) revealed that an average fourth grade class using this series already knew approximately half of the target words before they were introduced. In the Scott, Foresman Reading Program (Aaron, 1981), counting only the words that direct teaching activities are prescribed for, students could learn 900-1000 words between the third and seventh grades. This again, as in the direct teaching method, accounts for only a small percentage of the estimated 3000 words that students learn annually (Nagy and Herman, 1984).

Another point to note is that even though a reading series may include instructional techniques and exercises to help teach vocabulary, teachers may not be emphasizing vocabulary instruction. Durkin (1979) observed 4469 minutes of reading instruction in fourth grade classrooms. She found that teachers spend 19 minutes instructing new vocabulary and only 4 minutes reviewing words previously taught.

Although acquiring new vocabulary as part of a commercial reading program is possible, the studies reviewed reveal it is not very effective and does not produce large increases in word knowledge.

Several studies have investigated the learning of word meaning through derivation. Deriving a word from context involves specifically attempting to figure out the meaning of an unknown word using various types of "clues." Jenkins, Matlock and Slocum (1989) believe that students would acquire a sizeable number of new words per year if they could improve their ability to learn the meaning of unknown words from context.

Carnine, Kameenui, and Coyle (1984) developed several instructional interventions designed to improve students' ability to derive meanings of unknown words from context. Students were instructed to determine the meaning of target words embedded in specially written contexts containing one of three context clues: a stated synonym, a stated contrast or a stated inference relation. Students demonstrated significant improvement in deriving word meanings from these contexts through increased practice.

In a similar study building on the research by Carnine et al. (1984), Patberg, Graves, and Stibbe (1986), also using specially designed contexts, found that an "active

teaching" condition increased students' derivation skills more than practice alone. However, these researchers used only synonym and contrast clues in the context.

In a study conducted by Jenkins, Matlock and Slocum (1989), two approaches to vocabulary instruction were compared: teaching individual word meanings and deriving words from context. The vocabulary selected for instruction and the texts used to measure students' ability to derive word meaning were taken from basal readers appropriate for the students' grade level. The absolute scores on the test of students' ability to derive word meaning were low. However, they did improve with practice. Jenkins et al. (1989) believes that this may be due in part to the "difficulty in deriving meaning from limited contexts" (p. 237). In the previous studies mentioned, the contexts were specifically developed for the research. Another factor which may have affected the results is that Jenkins' research involved a broad range of clue types whereas Carnine et al. (1984) and Patberg et al. (1986) used only two to three kinds of context clues including stated synonyms and stated contrasts – which, according to Graves (1986) are the easiest to teach.

Jenkins et al. (1989) concluded that "both instruction in individual meanings and instruction in deriving meaning appear to hold potential for adding significantly to students' vocabulary" (p. 234). It is suggested that combining these techniques may be more effective than relying exclusively on either strategy. Jenkins estimates that an intense vocabulary program incorporating these two methods could result in students learning more than 1200 words per year.

In his summary of research on teaching students to derive word meanings from context, Graves (1986) concluded, "teaching students to use context clues is difficult. In

fact, there is no report that presents a thorough and convincing case that students can be taught to better use context to unlock the meanings of novel words encountered during normal reading" (p. 73).

In her study on acquiring word meaning from context, McKeown (1985) found that high ability students are better at deriving word meanings than low ability students. In addition, even when low ability students are able to derive a correct definition from context or are told the definition, they are still, in many instances, unable to apply the newly learned word.

Jenkins, Stein and Wysocki (1984) believe that students can be taught to derive words from context. However, they find no evidence that "children spontaneously engage in this activity during reading, and, even if they do, that they get beyond comprehending an unfamiliar word to learning and remembering its meaning" (p.789).

Deriving words from context does help some students acquire new vocabulary. However, in and of itself, it does not appear to be the best nor the most efficient method for acquiring new words.

Learning word meanings incidentally from context is yet another way students acquire new vocabulary. Jenkins, Stein and Wysocki (1984) conducted a study in which fifth graders were instructed to read specially constructed passages containing unlikely known vocabulary words. Under different exposure conditions, students read either two, six or ten passages for each of the target words over several days. Various vocabulary measures were created to test the amount of learning that took place. Two measures were definitional tasks while the other two involved word usage. The absolute level of vocabulary learning even with 10 exposures was not as great as might be expected.

However, results did indicate that students **can** acquire word meaning incidentally during reading and that more words can be learned through increased exposures.

In another study designed to determine if students learn words incidentally from context, Nagy, Herman and Anderson (1985) conducted research with 8th grade students. In this study, the students read either an expository or a narrative passage taken from grade level schoolbooks. Following the reading, subjects were tested in two ways- through an interview and a multiple-choice test. These tests were designed to measure degrees of word knowledge. Significant learning was found with both measures at all levels of difficulty. Nagy et al. (1985) believes that learning words from context can result in large-scale vocabulary growth if students do a sufficient amount of reading.

Expanding on their initial study, a second study was conducted by Nagy, Anderson, and Herman (1987). This study spanned three grade levels and included students of various ability levels. For each grade level- third, fifth, and seventh, 4 texts taken from grade level books were used. The results of this study parallel the initial study done by Nagy et al. (1985) – incidental learning of word meaning does take place during normal reading. In this study, children at all three grade levels gained substantial knowledge about unfamiliar words, and in many cases, from a single exposure.

Although the previous studies provide evidence of vocabulary acquisition through written context, several researchers question its effectiveness. Beck, McKeown, and McCaslin (1983) argue "contexts occurring in text selections do not reliably assist readers in discovering the meaning of an unknown word…even the appearance of each target word in a strong directive context is far from sufficient to develop full knowledge of word meaning" (p.180).

Deighton (1959) suggests some likely reasons why learning words from context is an inefficient process. First of all, only some contexts give much information about the meaning of a word. Also, a word may have many possible meanings and only one is supported by the context. Finally, the context will supply only aspects of this one meaning of the word. Therefore, Deighton concludes that learning vocabulary from context is a gradual matter.

Robbins and Ehri (1994) also believe that it is unlikely that children increase their vocabulary substantially through reading before third grade because they encounter very few unfamiliar words in the books they are required to read at school.

Although each of the four methods presented thus far (direct instruction, learning vocabulary through reading instruction, deriving word meaning through context, and learning words from context through normal reading) all seem to hold some potential for helping students to learn new vocabulary, another method of vocabulary acquisition that may be beneficial as well as enjoyable to many students is that of learning new words from listening to a story or text read aloud.

Reading aloud has been praised as an activity for years. Jim Trelease (1989), author of *The New Read-Aloud Handbook* (1989), has promoted reading aloud, not just to young children, but to children of **all** ages. He suggests that reading aloud can help increase a child's attention span and listening comprehension as well as develop a more positive attitude toward reading. In the fifteen minutes it takes to read a book, Trelease tells us that the listener is exposed to:

- a positive role model
- new information

- the pleasure of reading
- rich vocabulary
- good sentence and story grammar
- a book he or she might not otherwise be exposed to
- fully textured lives outside the students own experiences
- the English language spoken in a manner distinctly different from that of a television show (p. 202)

Other researchers have also expressed praise for reading aloud to children. Fondas (1992) describes reading aloud as a "naturalistic conversational setting that provides both a schematic framework for children and an intrinsic motivation to comprehend novel words" (p.13). She further states "the phenomena that listening to a story stimulates the child to seek out the book should be enough to entice teachers to use this approach as much as possible in the classroom" (p.15).

Cermak and Craik (1979) suggest children will learn and retain more from an activity such as hearing entertaining stories read aloud than from working at a contrived exercise.

Elley (1989) tells us that stories read aloud typically contain novelty, humor, conflict and surprise. It is these variables that are calculated to raise arousal levels (Berlyne, 1960) and produce enough motivation in children to allow them to maintain attention and learn rapidly from context. Elley continues that when a teacher reads an absorbing story with liveliness and dramatic quality, most children will sit still and "concentrate their attention at a deeper level than at other times during the day… So the contents are more likely to be processed at a deeper level" (p.4).

Anderson, Herbert, Scott, and Wilkinson (1985) as quoted by Maher (1981) note that reading aloud has shown to be "the single most important activity for building the knowledge for eventual success in reading" (p. 4). Other researchers also support the correlation of reading aloud with academic gains. Chomsky (1979) and Durkin (1966) both found that children who have been read to regularly in their preschool years make rapid strides in their reading and language development at school. Similarly, Wells (1986) reported that children who were orally read stories during their preschool years were judged by their teachers to have better vocabulary at age 10.

In January 1991, the Journal of the American Medical Association reported results of a study that found 3-year olds who were read to had IQ scores averaging 13 points higher than those children not read to.

Feitelson, Kita, and Goldstein (1986) found that first graders who were read to on a daily basis outscored comparison students not read to on every language test given to them.

Only in recent years have the benefits of reading aloud been specifically linked to the acquisition of vocabulary. Frick (1986) believes that listening to stories can be an introduction to vocabulary beyond a students' normal reading level and may help them to comprehend words they would not recognize on sight by hearing them in context and inferring meaning.

Many other recent studies also report that reading aloud to students can result in vocabulary acquisition. In a study conducted with 4-year old children, Senechal, Thomas, and Monker (1995) tried to assess how children who differ in vocabulary knowledge learn new words incidentally from listening to stories read aloud. In two different

experiments, students listened passively to readings of a book, pointed to pictures or labeled pictures during the readings. Findings show that all children acquired some vocabulary through storybook reading. However, children with larger vocabularies comprehended more words than those with smaller vocabularies. Also it was found that active responding (pointing or labeling pictures) enhanced vocabulary learning more than just listening to the story read aloud.

In a study done with kindergarten students, Eller, Pappas and Brown (1988) found that students acquired word meanings from stories read aloud to them. The children heard two different stories, which were each read three times. After each reading, the students were asked to "read it in their own way." Analyses of the children's reading showed that the pupils used the target words more often and with more accuracy. This provides evidence for acquisition of vocabulary through reading aloud without formal instruction.

In another study done with kindergarten students, Robbins and Ehri (1994) also found that reading storybooks aloud helps students learn new vocabulary words. In this study, individual students heard a story read two times over the course of several days and then completed a multiple-choice test on the meanings of unfamiliar words. The research indicates that reading stories aloud to young school children will contribute to vocabulary growth. As in the Senechal et al. study (1995), children with larger entering vocabulary learned more words than those with a more meager vocabulary. The researchers suggest that reading aloud be continued but that teachers may need to provide more explicit vocabulary instruction for children with smaller vocabularies.

Labonty (1988) conducted a study in which two groups of third grade students listened to one of two books read orally. Following the reading, an oral posttest on

vocabulary and sentences from the book was given. Results indicated that the children who heard the story from which the words and sentences were taken had a better understanding of those words and recognized sentences better than the children who had heard the other story. From these results, Labonty suggests that the process of meaning acquisition appears to begin with the first encounter of an unfamiliar word within the context of a children's book.

In a study done with first graders described as disabled readers, Fondas (1992) orally read five books once each day for five days over the course of ten weeks. Students completed follow-up activities to stimulate and facilitate the students' interest of each story as well as their acquisition of the new vocabulary words. The results of the study showed that 80% of the target group improved their comprehension of the 25 vocabulary words used.

Cohen (1968) conducted a study with second graders from 7 special service schools in New York City. She found that students showed a significant increase on several different vocabulary tests after listening to teachers read aloud a story every day of the school year followed by various post reading activities such as discussions, dramatizations and crafts related to the stories.

In New Zealand, Elley (1989) conducted two experiments involving 7 and 8-year-old students and their ability to acquire vocabulary from listening to stories read aloud. Both studies revealed that oral story reading constitutes a significant source or vocabulary acquisition. Vocabulary gains ranged from 15% (without teacher explanation) to 40% (with teacher explanation). Also, students with the lowest vocabulary scores at the outset learned as much, if not more, than those students with larger vocabularies.

The Fondas (1992), Cohen (1968) and Elley (1989) studies are important because the results indicate that even low ability students can benefit from stories read aloud. The findings of many other studies demonstrate the Matthew effect, that is, the rich get richer and the poor get poorer (Stanovich, 1986). Applied to vocabulary growth, the gap between those with larger vocabularies and those with smaller vocabularies grows larger and larger as children get older. Marie Clay (1967) produced some disturbing figures regarding this phenomenon. She estimated that high progress readers are exposed to 20,000 words in their first year of reading as compared to only 5,000 words encountered by low progress readers. If low ability students start out this way, they will never catch up.

If reading stories orally is an activity that **all** students can share in and less able readers can learn as much vocabulary as more capable ones, then there is reason to continue this activity on a more widespread basis.

Although reading aloud is a practice used most widely in preschool through grade 3, it has also proven beneficial with older students as well. In a study done to determine the effect of reading aloud to fifth grade students, Maher (1991) compared the number of word definitions retained by students who looked up words and wrote down definitions to the number of words retained by students who had the stories and definitions read aloud to them. The results found that students acquired twice as much vocabulary being read aloud to than the group assigned to look up definitions and read the same selections independently.

It seems evident from the research involving reading aloud and its effect on vocabulary acquisition that there are "clearly good linguistic ground for increasing this

activity, over and above the recreational and cultural reasons for doing it" (Elley, 1989, p. 186).

From reviewing all of the research on the importance of vocabulary and how it is acquired, it seems clear that vocabulary is learned in many ways and researchers differ in their beliefs as to which method is most beneficial and efficient in helping students acquire new words.

There is no question that directly teaching vocabulary will result in students' learning of new words. However, one of the difficulties with this method lies in knowing where to begin instruction considering the number of words in the English language. Also, due to the fact that direct teaching of vocabulary is time consuming, some question whether it **should** be taught especially when so many people seem to acquire numerous words without explicit instruction.

The vocabulary introduced in commercial reading series does not appear to be substantial. "As a rule, basal reading programs do not emphasize vocabulary….(and) when these programs do prescribe vocabulary instruction, they recommend weak teaching procedures" (Jenkins, Stein and Wysocki, 1984, p.768).

Deriving word meanings from context is a skill that helps many able readers. However, research has shown that gaining word meaning from context is far from an automatic process, and particularly that less skilled students are much less likely to succeed in gaining meaning (Rankin and Overholser, 1969).

Learning words incidentally from context is certainly how many good readers acquire new vocabulary. The trouble with learning from silent reading however is that many students do not read widely or quickly enough on their own. Therefore, slow

readers are at a disadvantage learning words in this manner. Also, Labonty (1988) believes "while silent reading may facilitate vocabulary growth for older students, it is unlikely that many children in the primary grades could efficiently improve their vocabulary size in this manner" (p. 4).

After observing over 80 studies of vocabulary instruction, Petty, Harold and Stall (1968) feel that there is no single "best" method for teaching vocabulary. They believe any instruction is better than no instruction at all. This may very well be true. However, if vocabulary can be learned through an **enjoyable** activity, this may be one main reason for promoting it above other methods.

Reading aloud to children **is** an enjoyable activity, not just for young children, but for children of all ages. In a survey of intermediate grade students, Mendoza (1985) found that 74% of students questioned admitted they enjoyed being read to. Frick (1986) describes reading aloud as "an absolutely pleasurable and relaxing experience for all – no matter what the variance in intelligence in your classroom (p. 304).

There is an additional reason to promote reading aloud especially for the remedial reader. For all readers, but especially those that are disabled, listening comprehension is higher than both oral and silent reading comprehension. Therefore, poor readers may be able to enjoy more quality literature if it is read aloud rather than trying to struggle through the material themselves.

Reading aloud has been praised and endorsed by many authors and researchers in recent years (Kimmel and Segal, 1988, Rudman and Pierce, 1988, Taylor and Strickland, 1986). If current and future research continues to suggest its ability to increase students'

vocabulary then there is certainly reason to continue and increase this enjoyable and worthwhile activity.

REFERENCES

Aaron, I.E. (1981). Scott, Foresman reading. Glenview, Ill: Scott, Foresman.

Anderson, R.C., Hubert, E.H., Scott, J.A. & Wilkinson, I.A.G. (1985). Becoming a Nation of Readers: The Report of the Commission on Reading. Washington, D.C.: The National Institute of Education.

Beck, I.L., McCaslin, E.S., & McKeown, M.G. (1980). The rationale and design of a program to teach vocabulary to fourth-grade students. (LRDC Publication No. 25). Pittsburgh, PA. University of Pittsburgh, Learning Research and Development Center.

Beck, I., McKeown, M., & McCaslin, E. (1983). All contexts are not created equal. Elementary School Journal, 83,177-181.

Beck, I., McKeown, M. McCaslin, E. & Burkes, A. (1979). Instructional dimensions that may affect reading comprehension: Examples from two commercial reading programs. Pittsburgh: University of Pittsburgh, Learning Research and Development Center, (LRDC Publication 1979/20).

Berlyne, D. (1960). Conflict, arousal and curiosity. New York: McGraw Hill.

Carnine, D., Kameenui, E. J., & Coyle G. (1984). Utilization of contextual information in determining the meaning of unfamiliar words. Reading Research Quarterly, 19, 188-204.

Cirmak, L.S., & Craik, F.I. (Eds.). (1979). Levels of Processing in Human Memory. Hillsdale, NJ: Erlbaum, pp.385-404.

Chomsky, C. (1979). Language and Reading. In R.E. Shafer (Ed.), Applied Linguistics and Reading (pp.112-128). Newark, DE: International Reading Association.

Clay, M. (1967). The Reading Behavior of 5-Year-Old Children. N.Z. Journal of Educational Studies, 2, 11-31.

Cohen, Dorothy H. (1968). The Effect of Literature on Vocabulary and Reading Achievement. Elementary English, 209-217.

Deighton, L. (1959). Vocabulary development in the classroom. New York: Bureau of Publications, Teacher's College, Columbia University.

Dupuy, H.P. (1974). The rationale, development and standardization of a basic vocabulary test (DHEW Publication No. HRA 74-1334). Washington, DC: U.S. Government Printing Office.

Durkin, D. (1966). Children Who Read Early. New York: Teachers College Press.

Durkin, D. (1979). What classroom observations reveal about reading comprehension instruction. Reading Research Quarterly, 14, 481-533.

Eller, R., Pappas, C., & Brown, E. (1988). The Lexical Development of Kindergartners: Learning from Written Context. Journal of Reading Behavior, 20, 5-24.

Elley, W.B. (1989). Vocabulary acquisition from listening to stories. Reading Research Quarterly, 24 (2), 174-187.

Feitelson, D., Kita, B., & Goldstein Z. (1986). Effects of Listening to Series Stories on First Graders' Comprehension and Use of Language. Research in the Teaching of English, 20, 339-356.

Fondas, L.B. (1992). The Acquisition of Vocabulary from Reading Stories Aloud. Nova University. (ERIC Document Reproduction Service No. ED 348 661).

Frick, H. (1986). The value of sharing stories orally with middle school students. Journal of Reading, 29 (4), 300-304.

Fry, E. (1977). Fry's Readability Graph: Clarifications, Validity, and Extension to Level 17. Journal of Reading, 21, 249.

Graves, M.F. (1986). Vocabulary learning and instruction. In E.Z. Rothkopf (Ed.), Review of Research in Education. (Vol. 13, pp. 49-89). Washington, DC: American Educational Research Association.

Harris, T.L. (1975). Keys to Reading. Oklahoma City: The Encounter Co.

Jenkins, J.R. & Dixon, R. (1983). Vocabulary Learning. Contemporary Educational Psychology, 8, 237-260.

Jenkins, J.R., Matlock, B., & Slocum, T.A. (1989). Two approaches to vocabulary instruction: The teaching of individual word meanings and practice in deriving word meaning from context. Reading Research Quarterly, 24, 215-235.

Jenkins, J.R., Stein, M.L., & Wysocki, K. (1984). Learning Vocabulary Through Reading. American Educational Research Journal, 21 (4), 767-787.

Kimmel, M.M., & Segal, E. (1988). For reading out loud! New York: Delacorte.

Labonty, J. (1988). The Incidental Acquisition of Word Meaning through Oral Context. (ERIC Document Reproduction Service No. ED 298 451)

Maher, E. (1991). The Effect of Reading Aloud to Fifth-Grade Students on the Acquisition of Vocabulary. Florida International University. (ERIC Document Reproduction Service No. ED 329 904)

McKeown, M.G. (1985). The acquisition of word meaning from context by children of high and low ability. Reading Research Quarterly, 20, 482-496.

McKeown, M.G., Beck, I.L., Omanson, R.C., & Pople, M.T. (1985). Some effects of the nature and frequency of vocabulary instruction on the knowledge and use of words. Reading Research Quarterly, 20, 522-535.

Mendoza, A. (1985). Reading to Children: Their Preferences. The Reading Teacher, 38, 522-527.

Miller, George. (1977). Spontaneous Apprentices: Children and Language. New York: Seabury.

Nagy, W., Anderson, R. & Herman, P. (1987). Learning Word Meanings from Context during Normal Reading. American Educational Research Journal, 24, 237-270.

Nagy, W., Herman, P., & Anderson, R. (1985). Learning words from context. Reading Research Quarterly, 20 (2), 233-253.

Patberg, J.P., Graves, M.F., & Stibbe, M.A. (1984). Effects of active teaching and practice in facilitating students' use of context clues. In J.A. Niles & L.A. Harris (Eds.), Changing perspectives in research in reading/language processing and instruction. (pp. 146-151). Rochester, NY: National Reading Conference.

Petty, W., Harold, C., & Stoll, E. (1978). The State of the Knowledge About the Teaching of Vocabulary. Cooperative Research Project No. 3128. Champaign, IL: National Council of Teachers of English. (ERIC Document Reproduction Service No. 012 395)

Pressley, M., Levin, J.R. & Miller, G.E. (1982). The Keyword Method Compared to Alternative Vocabulary-Learning Strategies. Contemporary Educational Psychology, 7, 50-60.

Rankin, E.F., & Overholser, B.M. (1969). Reaction of intermediate grade children to context clues. Journal of Reading Behavior, 1, 50-73.

Robbins, C. & Ehri, L.C. (1994). Reading Storybooks to Kindergartners Helps Them Learn New Vocabulary Words. Journal of Educational Psychology, 86 (1), 54-64.

Rudell, R.B. (1978). Pathfinder. Boston: Allyn & Bacon.

Rudman, M., & Pierce, A.M. (1988). For love of reading: A parent's guide to encouraging young readers from infancy through age 5. New York: Consumers Union.

Sanacore, J. (1988) Linking Vocabulary and Comprehension through Independent Reading. (ERIC Document Reproduction Service No. ED 300 798)

Senechal, M., Thomas, E., & Monker J. (1995). Individual Differences in 4-Year-Old Children's Acquisition of Vocabulary During Storybook Reading. Journal of Educational Psychology, 87 (2), 218-229.

Smith, M.K. (1941). Measurement of the size of general English vocabulary through the elementary grades and high school. General Psychological Monographs, 24, 311-345.

Stanovich, K.E. (1986). Matthew effects in reading: Some consequences of individual differences in the acquisition of literacy. Reading Research Quarterly, 16, 32-71.

Sternberg, R. J. (1987). Most vocabulary is learned from context. In M.C. McKeown and M. E. Curtis (Eds.), The nature of vocabulary acquisition (pp. 89-105). Hillsdale, NJ: Erlbaum.

Sutherland, M. H. & Arbuthnot, Z. S. (1986). Children and Books (7th Edition.) Glenview, IL: Scott Foresman.

Taylor, D., & Strickland, D.S. (1986). Family storybook reading. Portsmouth, NH: Heinemann.

Terman, L. M. (1916). The measurement of intelligence. Boston: Houghton-Mifflin.

Trelease, J. (1989). Jim Trelease speaks on reading aloud to children. The Reading Teacher, 43 (3), 200-206.

Trelease, Jim. (1989). The new read-aloud handbook. New York: Penguin.

Wells, G. (1986). The Meaning Makers. Portsmouth, NH: Heinemann.

APPENDIX

TABLE 6

INDIVIDUAL TEST RESULTS – All Words

	TEST 1		TEST 2		TEST 3		TEST 4		Totals	
# Correct	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post
Student 1 -	4	11	11	12	6	11	4	12	25	46
Student 2	16	20	10	16	9	16	15	21	50	73
Student 3	10	17	9	17	9	14	11	18	39	66
Student 4	12	16	9	13	6	10	5	14	32	53
Student 5	4	15	11	20	11	13	10	16	36	64
Student 6	9	15	7	13	11	10	10	14	37	52
Student 7	15	19	15	20	17	18	17	20	64	77
Student 8	10	16	14	17	9	14	10	18	43	65
Student 9	12	16	5	14	8	13	14	20	39	63
Student 10	14	21	9	21	7	16	10	18	40	76
Student 11	12	17	8	11	6	10	8	15	34	53
Student 12	12	18	9	13	11	15	13	19	45	65
Student 13	4	13	7	13	3	10	11	16	25	52
Student 14	13	19	8	13	9	15	12	18	42	65
Student 15	11	14	7	11	4	11	7	16	29	52

TABLE 7

INDIVIDUAL TEST RESULTS – Words from Books Read Silently

	TEST 1		TEST 2		TEST 3		TEST 4		Totals	
# Correct	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post
Student 1 -	1	4	7	3	1	2	1	6	10	15
Student 2	6	9	8	8	4	5	9	10	27	32
Student 3	5	9	5	8	2	5	8	8	20	30
Student 4	7	8	5	5	2	2	3	6	17	21
Student 5	1	5	6	10	3	4	4	6	14	25
Student 6	3	6	5	5	4	5	7	6	19	22
Student 7	6	8	7	10	8	8	8	9	29	35
Student 8	3	6	9	8	3	5	5	5	20	24
Student 9	6	5	1	5	1	5	7	9	15	24
Student 10	5	9	5	9	5	7	5	8	20	33
Student 11	4	5	5	3	2	4	4	6	15	18
Student 12	4	7	4	6	6	5	6	9	20	27
Student 13	2	3	3	6	1	3	8	7	14	19
Student 14	8	6	3	5	4	4	7	9	22	24
Student 15	3	4	3	4	0	2	3	8	9	18

TABLE 8

INDIVIDUAL TEST RESULTS – Words from Books Read Orally

	TEST 1		TEST 2		TEST 3		TEST 4		Totals	
# Correct	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post
Student 1 -	3	7	4	9	5	9	3	6	15	31
Student 2	10	11	2	8	5	11	6	11	23	41
Student 3	5	8	4	9	7	9	3	10	19	36
Student 4	5	8	4	8	4	8	2	8	15	32
Student 5	3	10	5	10	8	9	6	10	22	39
Student 6	6	9	2	8	7	5	3	8	18	30
Student 7	9	11	8	10	9	10	9	11	35	42
Student 8	7	10	5	9	6	9	5	13	23	41
Student 9	6	11	4	9	7	8	7	11	24	39
Student 10	9	12	4	12	2	9	5	10	20	43
Student 11	8	12	3	8	4	6	4	9	19	35
Student 12	8	11	5	7	5	10	7	10	25	38
Student 13	2	10	4	7	2	7	3	9	11	33
Student 14	5	13	5	8	5	11	5	9	20	42
Student 15	8	10	4	7	4	9	4	8	20	34

Sample Questions from Pre and Posttests

Multiple Choice

1. The hunter kept the bear's pelt.
a) skin b) claw c)head d) eyeball

2. I love my babushka.
a) cat b) teddy bear c) grandmother d) little brother

3. Mary felt very content.
a) unhappy, upset b)pleased, satisfied c) angry d) disappointed

4. Mom's new tablecloth got scorched.
a) burned b) dirty c) cleaned d) ripped

5. The flowers swayed.
a) grew tall b) moved back and forth c) died d) bloomed

Cloze Sentences

1. Maria was _____ gracefully on the frozen pond in her new ice skates.
a) striding b) skimming c) prowling d) gazing

2. The fire was still _____.
a) scrawling b) swaying c) plunging d) smoldering

3. The policemen _____ into the dark room.
a) peered b) prickled c) seized d) gnawed

4. The artist held his _____ while he painted.
a) landscape b) palette c) chariot d) monument

5. Mom _____ Dad to try to wake him up.
a) mired b) consoled c) nudged d) taunted